



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,641	07/11/2003	Wendell Lee Wright	3447-16	5336
52450	7590	02/27/2006	EXAMINER	
KRIEG DEVAULT LLP ONE INDIANA SQUARE SUITE 2800 INDIANAPOLIS, IN 46204-2079			TERESINSKI, JOHN	
			ART UNIT	PAPER NUMBER
			2858	

DATE MAILED: 02/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/617,641	Applicant(s) WRIGHT, WENDELL LEE	
	Examiner John Teresinski	Art Unit 2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2005.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 and 31-37 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 35-37 is/are allowed.
6) ☒ Claim(s) 1, 2, 9-11, 15-17, 19, 23-25, 27, 28 and 31-34 is/are rejected.
7) ☒ Claim(s) 3-8, 12-14, 18, 20-22 and 29 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,068,281 to Harnden.

Regarding claim 1, Harnden discloses a transient suppression circuit including a sensor (10) operable to detect one or more physical characteristics and provide a corresponding electrical sensor signal (column 5 lines 18-35) and transient suppression circuitry coupled to the sensor, the transient suppression circuitry including a first negative temperature coefficient thermistor (column 4 lines 27-30, Fig. 4 element 15) operable to couple with an electrical power source for the sensor, the transient suppression circuitry being responsive to a power surge condition from the source to dissipate electrical power associated with the surge through the first thermistor (column 4 lines 53-68).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17, 19, 31, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harnden.

Regarding claims 17 and 19, Harnden discloses an electrical connection to couple the sensing device to other equipment including an electrical power source for the sensor (ie. connection leads to the sensing device see Fig. 4 elements 13 and 14, column 4 lines 55-56). Harnden does not explicitly disclose a connector. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a connector since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

Regarding claims 31, 33 and 34, Harnden does not disclose the sensor and the transient suppression circuitry are incorporated into an integral sensing device unit. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the devices integral, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 64 (1893).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harnden in view of U.S. Patent No. 3,651,379 to Moisand et al..

Regarding claim 2, Harnden does not disclose a second negative temperature coefficient thermistor. Moisand et al. discloses a temperature responsive circuit for protection of an electronic device having a current limiter circuit including a second negative temperature coefficient resistor (column 2 lines 30-40). It would have been obvious to one of ordinary skill

Art Unit: 2858

in the art at the time the invention was made to include a second negative temperature coefficient resistor as taught by Moisand et al. into Harnden for the purpose monitoring ambient temperature as well as the temperature of an electronic device in order to increase operating range (column 1 lines 43-60).

Claims 23, 25, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harnden in view of U.S. Patent No. 5,610,451 to Symonds.

Regarding claims 23 and 27, Harnden does not disclose a controller including a power source for the sensor. Symonds discloses a controller and power supply for a sensor (ie. regulated power supply see (Fig. 1 element 26). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a controller including a power source for the sensor as taught by Symonds into Harnden for the purpose of providing uninterrupted power to the sensor.

Regarding claims 25 and 28, Harnden discloses indicating means coupled to the sensor (column 4 lines 37-42).

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harnden and Symonds as applied to claim 23 above, and further in view of Moisand et al..

Regarding claim 24, Harnden as modified does not disclose a second negative temperature coefficient thermistor. Moisand et al. discloses a temperature responsive circuit for protection of an electronic device having a current limiter circuit including a second negative temperature coefficient resistor (column 2 lines 30-40). It would have been obvious to one of

Art Unit: 2858

ordinary skill in the art at the time the invention was made to include a second negative temperature coefficient resistor as taught by Moisand et al. into Harnden as modified for the purpose monitoring ambient temperature as well as the temperature of an electronic device in order to increase operating range (column 1 lines 43-60).

Claims 9, 10, 15, 16 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harnden in view of U.S. Patent No. 6,201,680 to Tokatian.

Regarding claim 9, Harnden does not disclose providing a transient power surge having a duration of at least 250 microseconds and a peak current of at least 500 milliamperes. Tokatian disclose a transducer protection circuit protecting a transient power surge having a duration of at least 250 microseconds and a peak current of at least 500 milliamperes (column 5 lines 51-62). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the surge parameters as taught by Tokatian into Harnden for the purpose of providing protection to a wide range of fault currents in order to reducing risk of injury or damage.

Regarding claim 10, Harnden in view of Tokatian discloses the claimed invention except for the duration of the transient power surge is between 250 and 500 microseconds and the peak current is between 0.5 and one ampere. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the range claimed, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Gardner, 220 USPQ 777 (CAFC 1984).

Art Unit: 2858

Regarding claims 15 and 16, Harnden discloses the sensor and an electrically coupled together and coupling the thermistor to one of the sensor and indicator (column 4 lines 37-42, Fig. 4).

Regarding claim 32, see claim 31 above.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harnden and Tokatian as applied to claim 9 above, and further in view of Moisand et al..

Regarding claim 11, Harnden as modified does not disclose a second negative temperature coefficient thermistor. Moisand et al. discloses a temperature responsive circuit for protection of an electronic device having a current limiter circuit including a second negative temperature coefficient resistor (column 2 lines 30-40). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a second negative temperature coefficient resistor as taught by Moisand et al. into Harnden as modified for the purpose monitoring ambient temperature as well as the temperature of an electronic device in order to increase operating range (column 1 lines 43-60).

Allowable Subject Matter

Claims 3-8, 12-14, 18, 20-22, 26 and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

Art Unit: 2858

Regarding claims 3, 13, 18 and 29:

The primary reason for allowance of claims 3, 13, 18 and 29 is the inclusion of sensing a change in a magnetic field detectable with the sensor. It is these features found in the claim, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

Regarding claims 4, 12, 14, 26 and 35:

The primary reason for allowance of claims 4, 12, 14, 26 and 35 is the inclusion of a controller including a power source for the sensor and transient suppression circuitry coupled between the sensor and the power source of the controller. It is these features found in the claim, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

Claim 5 is allowed due to dependency on claim 4.

Claims 36-37 are allowed due to their dependency on claim 35.

Regarding claims 6 and 20:

The primary reason for the allowance of claims 6 and 20 is the inclusion of a second negative temperature coefficient thermistor, and the sensor is coupled between the first thermistor and the second thermistor. Harnden in view of Tokatian and Moisand et al. discloses a second thermistor but not the connection as claimed in claims 6 and 20. It is these features found in the claim, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

Claims 7 and 8 are allowed due to their dependency on claim 6.

Claims 21 and 22 are allowed due to their dependency on claim 20.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments filed 25 November 2005 have been fully considered but they are not persuasive.

In response to applicant's arguments regarding claims 1, 9, and 17 that the cited prior art does not disclose a sensor operable to detect one or more physical characteristics and provide a corresponding electrical sensor signal, the examiner disagrees. Applicant is referred to Harnden (column 4 lines 16-26 and 43-53), which discloses a sensor operable to detect one or more physical characteristics and provide a corresponding electrical sensor signal (ie. a varistor able to electrically trigger an ASCR when a voltage threshold has been exceeded due to a transient voltage).

In response to applicant's arguments that the cited prior art does not disclose both a sensor and suppression circuitry, the examiner disagrees. Applicant is referred to Harnden (column 2 lines 22-35, column 4 lines 27-30, Fig. 4 element 15), which discloses transient suppression circuitry coupled to the sensor, the transient suppression circuitry including a first

Art Unit: 2858

negative temperature coefficient thermistor (ie. the negative temperature coefficient thermistor separate from the varistor sensor, which may be utilized to activate protective devices such as a SCR in response to transient voltages).

In response to applicant's arguments that the cited prior art does not disclose a connector to couple the sensing device to other equipment including an electrical power source as claimed in claim 17, the examiner disagrees. Applicant is referred to Harnden (Fig. 4, elements 13 and 14) in which the sensor (varistor) is connected to a power supply by electrical leads.

Applicant's arguments with respect to claims 2 and 11 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 2858

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

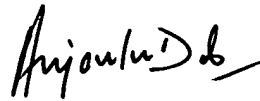
Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Teresinski whose telephone number is (571) 272-2235. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571) 272-2399. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ST
JT

February 17, 2006



ANJAN DEB
PRIMARY EXAMINER